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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,131	03/02/2004	Ik-Soo Lee	6192.0251.D1	3010

7590 03/09/2005

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EXAMINER	
CARIASO, ALAN B	
ART UNIT	**PAPER NUMBER**
2875	

DATE MAILED: 03/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/790,131	LEE ET AL.	
	Examiner	Art Unit	
	Alan Cariaso	2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. 10/109,676.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *20040302*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. This application appears to be a division of Application No. 10/109,676, filed April 1, 2002. A later application for a distinct or independent invention, carved out of a pending application and disclosing and claiming only subject matter disclosed in an earlier or parent application is known as a divisional application or "division." The divisional application should set forth the portion of the earlier disclosure that is germane to the invention as claimed in the divisional application.

2. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The two certified copies have been filed in parent Application No. 10/109,676, filed on April 1, 2002. ***Claim Objections***

3. Claims 2 and 4 are objected to because of the following informalities: Claim 2, lines 2-4, the phrase "the inner surface of the glass tube being placed between the mixture layer having the fluorescence material and the inner surface of the glass tube" appears to have an incorrect subject, since this phrase claims something that is physically impossible, namely that "the inner surface of the glass tube" is being placed at least between itself. Similarly, claim 4, lines 3-4, states such a phrase with an incorrect subject. Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3, 5-7 and 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by BURNS (US 2,774,903).

6. BURNS discloses a light source device (figs.1, 2, 5 & 6) comprising: a glass tube (1, col.1, line 57) filled up with a gas filler (col.1, lines 57-59), and including a mixture layer (8) having a fluorescence material (col.2, lines 8-14) therein; an electrode (2,3) disposed in the glass tube (1) for generating arc in response to an electric signal applied thereto; a masking film (14,15) coated on the glass tube (1) for cutting off a part of ultraviolet rays emitted from the glass tube (col.2, lines 59-68); wherein the masking film (14) coated on an inner surface (fig.6) of the glass tube (1), presumably, the masking film (14) being placed between the mixture layer (8) having the fluorescence material and the inner surface (fig.6) of the glass tube (1); wherein the masking film (15) is coated on an outer surface (fig.5) of the glass tube (1); wherein the masking film (14,15) comprises a transition metal oxide being at least TiO2 or Ce2O5 (col.2, line 66; col.3, lines 11-12 & 54); wherein the masking film cuts off ultraviolet rays having wavelengths of 253 nm, 313 nm and 365 nm (fig.1, col.2, lines 48-68).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 4, 8 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over BURNS (US 2,774,903) in view of LEWIS (US 3,748,518).

9. Claim 4 recites the masking film is coated on both an outer surface and inner surface of the glass tube, presumably, the masking film being placed between the fluorescent mixture layer and the inner surface of the glass tube, not disclosed by BURNS. Claims 8 and 12 recite the masking film having a thickness range of about 0.5 um to about 1 um, not disclosed by BURNS.

10. LEWIS teaches both an exterior film (23a, fig.2) and interior film (21a, fig.2) of masking coating (titania, col.5, lines 8-24) on both outer and inner surfaces (fig.2) of the glass tube (12a) for the purpose improving scratch resistance and lubricity of the lamp tube during manufacture, while containing or inner reflecting ultra-violet radiation (cols.3-4). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the light source device of BURNS to include the mask coating or metal oxide film on both outer and inner surfaces of the lamp tube as taught by LEWIS in order to contain UV radiation while improving scratch resistance and lubricity so as to preserve the physical integrity and therefore at least the uv-reflecting function of the light source device during and post manufacture.

11. LEWIS teaches maintaining a film of titania in a range that includes the claims 0.5-1 um (col.3, lines 50-52) for the purpose of improving the lumen output and maintenance (col.3, lines 42-53). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the light source device of

BURNS to include the thickness range as taught by LEWIS in order to improve lumen output and maintenance since it is desired to have maximum lumen and long working life of the light source device while contain UV radiation.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. REPSHER (US 3,377,494) show both outer and inner surfaces of a lamp tube (10) coated with layers (12a,12) of at least a titanium dioxide that block UV radiation (col.4, lines 58-61). SADOSKI et al (US 3,541,376) teaches the use of at least titanium dioxide coating of less than 1 micron (col.2, lines 38-39) to generally prevent passage of UV radiation of 3000-4000 A, or specifically 360 or 366 nm (col.3, lines 1-16) and in terms of % energy on a wavelength scale viewed in fig.2. SEUTER (US 4,544,997) show a transparent layer of at least yttrium oxide Y2O3 on an inner surface of a discharge lamp tube for protection against discharge elements, allowing transmission of useful UV and visible radiation, and giving high light output by preventing graying of the glass tube.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan Cariaso whose telephone number is (571) 272-2366. The examiner can normally be reached on 9-5:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Alan Cariaso
Primary Examiner
Art Unit 2875

AC
March 3, 2005